IN THE CLAIMS

Please amend the claims 1-13 as shown below, in which deleted terms are indicated with strikethrough and/or double brackets, and added terms are indicated with underscoring. The following list of claims replaces all previous versions, and listings of claims in the application.

1. (Currently amended) A high-turning and high-transonic blade for use in a blade cascade of an axial-flow compressor including a large number of blades disposed in an annular fluid passage, each said blade having an intrados adapted to generate a positive pressure and an extrados adapted to generate a negative pressure, ~~disposed in an annular fluid passage,~~

wherein a distribution of flow speed on the extrados ~~of the blade~~ has a supersonic region of a substantially constant flow speed ~~in the rear of~~ after a region that is decreased steeply from a first large value of the flow speed, said supersonic region of a substantially constant flow speed being [[and]] inside a position corresponding to 15% of a chord length from a leading edge of the blade, and said supersonic region of a substantially constant flow speed being followed by a steeply decreased region.

2. (Currently amended) A high-turning and high-transonic blade according to claim 1, wherein the supersonic region is established so that a value obtained by the division of a difference between Mach numbers at front and rear ends of the supersonic region by the ~~chord-wise~~ chord length of the supersonic region is smaller than 1, and a maximum Mach number in the supersonic region is smaller than 1.4.

3. (Currently amended) A high-turning and high-transonic blade for use in a blade cascade of an

axial-flow compressor including a large number of blades disposed in an annular fluid passage, each said blade having an intrados adapted to generate a positive pressure and an extrados adapted to generate a negative pressure, ~~disposed in an annular fluid passage,~~

wherein a first small value of curvature of the extrados is set to be sufficiently small at a leading edge of the blade, and a variation in curvature ~~in the rear of~~ behind the first small value of curvature towards a trailing edge is set ~~to be small,~~ such that a distribution of flow speed on the extrados has a first large value just behind the leading edge, that is followed by a region which is decreased steeply from the first large value, said region being followed by a supersonic region of a substantially constant flow speed, said supersonic region of a substantially constant flow speed followed by another steeply decreased region, said supersonic region of a substantially constant flow speed being inside a position corresponding to 15% of a chord length from the leading edge of the blade, whereby a first strong shock wave is induced at the leading edge to generate a pressure loss in a main flow, and a second weak shock wave is induced in the rear of the first shock wave to reduce a pressure loss in a following flow on the blade, whereby total pressure loss due to the first and second shock waves is reduced.

4. (Currently amended) A high-turning and high-transonic blade ~~according to claim 1,~~ for use in a blade cascade of an axial-flow compressor including a large number of blades disposed in an annular fluid passage, each said blade having an intrados adapted to generate a positive pressure and an extrados adapted to generate a negative pressure; wherein

a curvature of the extrados varies from a leading edge to a trailing edge of the blade;

a first maximum value of curvature is located immediately behind the leading edge;

a first small value of curvature is located immediately behind the first maximum value of

curvature;

a distribution of flow speed on the extrados has a supersonic region of a substantially constant flow speed;

the supersonic region includes a portion of the extrados extending from the curvature having the first small value to a position corresponding to 15% of a chord-wise length from the leading edge; and

~~a curvature of the extrados of the blade has [[a]]~~ the first small value of curvature is located inside a position corresponding to 5% of the chord-wise length, and the first small value ~~being smaller~~ of curvature is less than 0.6.

5. (Currently amended) A high-turning and high-transonic blade ~~according to claim 2~~, for use in a blade cascade of an axial-flow compressor including a large number of blades disposed in an annular fluid passage, each said blade having an intrados adapted to generate a positive pressure and an extrados adapted to generate a negative pressure; wherein

a curvature of the extrados varies from a leading edge to a trailing edge of the blade;

a first maximum value of curvature is located immediately behind the leading edge;

a first small value of curvature is located immediately behind the first maximum value of curvature;

a distribution of flow speed on the extrados has a supersonic region of a substantially constant flow speed;

the supersonic region includes a portion of the extrados extending behind curvature having the first small value to a position corresponding to 15% of a chord-wise length from the leading edge;

the supersonic region is established so that a value obtained by the division of a difference between Mach numbers at front and rear ends of the supersonic region by the chord-wise length of the supersonic region is smaller than 1, and a maximum Mach number in the supersonic region is smaller than 1.4; and

~~a curvature of the extrados of the blade has a~~ the first small value of curvature is located inside a position corresponding to 5% of the chord-wise length, and the first small value ~~being smaller~~ of curvature is less than 0.6.

6. (Currently amended) A high-turning and high-transonic blade ~~according to claim 3,~~ for use in a blade cascade of an axial-flow compressor including a large number of blades disposed in an annular fluid passage, each said blade having an intrados adapted to generate a positive pressure and an extrados adapted to generate a negative pressure, wherein

a first small value of curvature of the extrados is set to be sufficiently small at a leading edge of the blade, and a variation in curvature behind the first small value of curvature towards a trailing edge is set to be small, whereby a first strong shock wave is induced at the leading edge to generate a pressure loss in a main flow, and a second weak shock wave is induced behind the first shock wave to reduce a pressure loss in a following flow on the blade, whereby total pressure loss due to the first and second shock waves is reduced; and

the ~~curvature of the extrados of the blade has a~~ first small value of curvature is located inside a position corresponding to 5% of a chord-wise length from a leading edge of the blade, and the first small value of curvature is ~~being smaller~~ less than 0.6.

7. (Currently amended) A high-turning and high-transonic blade according to claim 1, wherein a

turning angle of the blade is set to be at least ~~equal to or larger than~~ 40°.

8. (Currently amended) A high-turning and high-transonic blade according to claim 2, wherein a turning angle of the blade is set to be ~~equal to or larger than~~ at least 40°.

9. (Currently amended) A high-turning and high-transonic blade according to claim 3, wherein a turning angle of the blade is set to be ~~equal to or larger than~~ at least 40°.

10. (Currently amended) A high-turning and high-transonic blade according to claim 1, wherein a Mach number of a main flow to the blade cascade is ~~equal to or larger than~~ at least 0.825 and ~~smaller~~ less than 1.0.

11. (Currently amended) A high-turning and high-transonic blade according to claim 2, wherein a Mach number of a main flow to the blade cascade is ~~equal to or larger than~~ at least 0.825 and ~~smaller~~ less than 1.0.

12. (Currently amended) A high-turning and high-transonic blade according to claim 3, wherein a Mach number of a main flow to the blade cascade is ~~equal to or larger than~~ at least 0.825 and ~~smaller~~ less than 1.0.

13. (Currently amended) A high-turning and high-transonic blade according to claim 3, wherein said total pressure loss is reduced in comparison to a blade which induces a first weak shock wave at the leading edge and a second strong shock wave ~~in the rear of~~ behind the first shock

wave.

14. (New) A high-turning and high-transonic blade according to claim 1, wherein the flow speed behind the leading edge has a first large value.

15. (New) An axial-flow compressor, comprising:

a plural high-turning and high-transonic blades disposed in an annular fluid passage; and

each said blade having an intrados adapted to generate a positive pressure and an extrados adapted to generate a negative pressure;

wherein

a curvature of the extrados varies from a leading edge to a trailing edge of the blade;

a curvature having a first maximum value is located immediately behind the leading edge;

a curvature having a first small value is located immediately behind the first maximum value of curvature;

a curvature having a second maximum value is located immediately in front of the trailing edge; and

a portion of the extrados has a supersonic region of a substantially constant flow speed.

16. (New) The axial-flow compressor of claim 15, wherein

the supersonic region of substantially constant flow speed on the extrados extends from the curvature having the first small value to a position corresponding to 15% of a chord-wise length from the leading edge.

17. (New) The axial-flow compressor of claim 15, wherein the first and second maximum values of curvature are equal.

18. (New) The axial-flow compressor of claim 15, wherein

a curvature of extrados is gently increased from the curvature having the first small value until the curvature attains a first large value at a chord-wise length of 40%.

19. (New) The axial-flow compressor of claim 18, wherein

a curvature of extrados is gently decreased from the curvature having the first large value until the curvature attains a second small value at a chord-wise length of 70%.

20. (New) The axial-flow compressor of claim 19, wherein

a curvature of extrados is gently increased from the curvature having the second small value until the curvature attains a second large value, and thereafter gently decreased to a curvature having a third small value, and further sharply increased to attain the second maximum value at the trailing edge.